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Issue I 2004

15  
YEARS

COME JOIN US FOR OUR 15<sup>TH</sup> YEAR CELEBRATION on APRIL 24  
at the FOSR ANNUAL MEMBERSHIP BANQUET

15  
YEARS

## PRESIDENT'S MESSAGE:

### Let's Celebrate

Come celebrate fifteen years of dedicated stewardship to "the preservation and restoration of the aquatic environment of the Shenandoah River and its tributaries." Fifteen years ago a group of concerned citizens joined together to organize the Friends of the Shenandoah River. The major effort being, with other river partners, to identify problems that were accruing with excess nutrients and sediment entering the Shenandoah River and its tributaries.

As the Valley has grown in population; bringing more houses, services and roads; there is greater need to balance human demands with the needs of the Shenandoah River. Thus, more of FOSR energies are moving beyond identifying problems to helping chart solutions. Members are active participants with most environmental organizations and in the development of tributary strategies for a cleaner river and Chesapeake Bay.

Over these past fifteen years FOSR has continued to grow in size and effectiveness because of dedicated members.

At our annual awards banquet we will celebrate 15 years of river monitoring and recognize charter board members and founders of the Friends of the Shenandoah River. Plan now to attend the banquet and silent auction April 24, 2004, at Mary B's Restaurant in Front Royal.

"The future depends on what we do in the present." Mahatma Gandhi

To make your reservation for the FOSR Annual Membership Banquet, contact Karen Andersen by  
**TUESDAY APRIL 20 @ (540) 665-1286 or kanderse@su.edu**

## Dr Tom Benzing to be Honored with the Raymond R. "Andy" Guest, Jr. Conservation Award

Dr. Tom Benzing, an Associate Professor from James Madison University, two years ago put together an ambitious proposal to create a geographic information system (GIS) and website that could deliver the Friends of the Shenandoah River water quality data generated from analysis of water samples collected over the years by volunteer monitors to the fingertips of anyone who is comfortable using a keyboard and the internet. The goal was to create a GIS that allowed one to answer some basic questions about water quality in the Valley:

- How does it change at each sampling station with time?
- How does land cover upstream of each sampling station relate to water quality?
- How does water quality change as you follow the rivers downstream?

Today, thanks to Tom, Kai Degner and many others we have the Shenandoah Basin Water Window Website, [www.purewaterforum.org/waterwindow](http://www.purewaterforum.org/waterwindow). GIS technology can be used to produce maps, examine the relationship between water quality and land cover, and analyze the current health of this important natural resource.

### UPCOMING EVENTS:

Earth Day  
James Barrett Park  
Winchester, VA  
April 17, 2004

River Week  
Waynesboro, VA  
April 17-24, 2004

Friends of the Shenandoah River  
Annual Meeting, Award Dinner  
Silent Auction, April 24, 2004, 6:00 p.m.  
Front Royal, VA

River Sojourn  
Andy Guest State Park  
May 24-28, 2004



## Rick Eades



### of Canaan Valley Institute to be *Guest Speaker* @ the FOSR Annual Membership and Awards Banquet

Rick Eades was born and raised in West Virginia. He holds a B.S. (Geology, with honors, WVU), an M.S. (Geology, UMass Amherst), and a math/science education certification (UNC Chapel Hill).

Beginning with Science Applications International Corporation (1980-1986), Rick worked on coal mine permitting, acid mine drainage, Eastern Gas Shale research, military base and Superfund site investigations, nuclear waste siting studies, and wastewater issues in karst terrains. He also worked in New England (1989-1999) on petroleum cleanups for Environmental Compliance Services, and then for Midwest Research Institute (1989-1997) where he served 22 states' environmental program needs. At MRI he also developed and delivered training for 135 Native American tribes and 19 states' environmental regulatory programs.

Rick returned to WV in 1999 to lobby the legislature, primarily for water quantity and spring water protections. He developed high school field programs, supervised interns from Duke, WVU, and Marshall, served as a stakeholder in regulatory developments, and provided expert and legislative testimony. Rick also helped secure Congressional wastewater funding, prompted fish tissue studies to benchmark mercury levels, and was a partner in a small GIS-based firm. At CVI since November 2003, Rick focuses on educational initiatives and youth programs; serving primarily in groundwater, source water, storm water, wastewater, land use impacts and stream restoration programs.

Rick's speech topic will include the growing global, national, regional, state and local stresses on water *quantity*. In addition to incredible shortages that reflect overuse of surface water and groundwater in numerous areas - competition for fresh water resources is escalating in a range of settings. Corporate interests in securing water rights and service sectors have grown at a staggering rate in the past several years, including major acquisitions of US water utility companies. States' are also contesting rights to water, and in some instances battles within states are escalating.

Other stresses are also amplifying pending crisis in fresh water supplies, not the least of which is the concern over atmospheric deposition of neuro-toxic metals, wastewater effluent that contains pharmaceuticals, and questionable protections for as-yet uncontaminated or minimally impacted Appalachian spring waters.

Many options may be available to address this ever more imminent crisis in available fresh water supplies, among which water conservation, rainwater collection, and headwater or source water protection appear to hold significant promise.

You are cordially invited to

**JOIN US FOR OUR 15<sup>TH</sup> YEAR CELEBRATION**

at the

FOSR ANNUAL MEMBERSHIP

and

AWARDS BANQUET

The Evening of Saturday, April 24, 2004

Social Hour and **Silent Auction** 6:00PM

Dinner at 7:00 PM

Mary B's Restaurant

At the Quality Inn

10 Commerce Avenue (US Rt. 522)

Front Royal, Virginia

R.S.V.P.

By April 20, 2004

(540) 665-1286

Tickets:

\$20.00

### Guest Speaker:

Rick Eades

Watershed Educator

for Canaan Valley Institute

Dr. Tom Benzing

To be honored with the

Raymond R. "Andy" Guest, Jr.

Conservation Award

## A CHALLENGE TO LANDOWNERS

by Bernard C. Nagelvoort

Vice-Chairman, Lord Fairfax Soil and Water Conservation District  
Treasurer, Friends of the Shenandoah River

I have been serving as the elected representative from Clarke County on the Lord Fairfax Soil and Water Conservation District Board since 1998. During this seven years the Conservation District has had a major responsibility in the Shenandoah River watershed for the reduction of pollution entering the River, and eventually the Chesapeake Bay, from agricultural land.

**The Chesapeake Bay Agreements.** While the District (Clarke, Frederick, Shenandoah and Warren Counties and the City of Winchester) met goals for pollution reduction established under the Chesapeake Bay Agreement of 1985, the Bay Program has more recently determined that an even greater reduction in pollution entering the Bay must be achieved by 2010. 2010 is the deadline established by EPA for the completion of voluntary efforts to comply with the Bay goals. If not achieved by that date EPA can impose mandatory requirements. Maryland, Pennsylvania, the District of Columbia and Virginia were parties to the 1985 Agreement. West Virginia, New York and Delaware have now joined the new Chesapeake Bay Agreement, signed in 2000 by Governor Gilmore for Virginia.

**The Pollutants.** The pollutants we're dealing with are nitrogen, phosphorus and sediments. They pollute the Bay in different ways, but the bottom line is that excessive amounts contribute to depletion of oxygen in deeper parts of the Bay making it uninhabitable for aquatic life. In shallower areas they prevent the growth of submerged aquatic vegetation which is the breeding and nursery ground for blue crabs and fish.

These pollutants also cause problems in the Shenandoah River and its tributaries. The huge masses of vegetation that choke the river during dryer periods are one result. Excessive silt and sediment in the river and stream bottoms cover up rocks and their nooks and crannies where insects that fish feed on live. A clean Shenandoah River and clean streams are major assets for municipal and industrial water supplies and for recreation and tourism.

**Local Conditions.** While landowners in the District are generally good stewards of their lands, there are many situations where excessive amounts of nitrogen, phosphorus, and sediments reach our streams and the River. The most frequent source of the problem is the use of land immediately adjacent to a stream, and livestock that are given direct access to the stream for watering purposes.

Cattle, horses and sheep need a source of water, of course. However, when they have direct access to a stream for this purpose several polluting actions take place. They deposit some of their manure and urine in the stream where it causes a pollution problem (rather than on pastureland where it provides a fertilizer benefit and helps to reduce fertilizer expense.) Their hooves break down the stream banks. They also gouge out the stream bottom. Pathways to the stream become raw earth subject to erosion from rainfall. All of these actions result in nutrients, silt and sediment polluting the stream. Over longer periods of time this erosion and resulting silt and sediment also reduce the amount of soil found over bedrock formations thus reducing the general productivity of the land. This degradation of land may not be evident in the short term, but it will be evident to future generations.

**Solutions to the Problems.** More than 90% of pollutants entering a stream can be prevented by a 35 foot fenced and vegetated buffer along the stream. Vegetation in the buffer strip

can be grasses or trees. Forested buffers are generally believed to provide the better protection. The most important action landowners can take to reduce pollution is to provide vegetated buffer strips along the River and streams on their own property.

Livestock can be provided water a safe distance away from a stream or the River. Many landowners in the District have installed off-stream watering devices and have provided fenced buffer strips. Water for livestock can be pumped from the stream or it can be provided from a well, whichever is the most appropriate from a convenience and cost-effectiveness perspective.

**Who Will Pay For Solutions?** While it is in the landowner's own long term best interest to protect a stream on his or her property, society as a whole also benefits from the protection of that stream. The loss of soil and the pollution of surface waters diminish the resources that provide for our own sustenance and the sustenance of future generations. An understanding of these consequences has resulted in the development of programs which provide taxpayer dollars to help cover the costs of off-stream watering systems and fencing to create stream buffers.

Several programs administered by the Lord Fairfax Soil and Water Conservation District in cooperation with the US Department of Agriculture's Natural Resource Conservation Service provide funding assistance for such efforts. While it remains to be seen what the current General Assembly will provide in terms of cost-share funds, State tax dollars in substantial amounts have been available in the past.

The Federal Conservation Reserve Enhancement Program (CREP) will pay up to 80% of eligible construction costs and an annual rental fee of about \$80 per acre for either 10 or 15 years for land in a buffer area. It will also pay \$500 per acre for buffer area land placed in a permanent easement. Virginia taxpayers' dollars provide additional financial assistance for this program for eligible construction costs. In the past this has been as much as 25% of such costs.

The Federal Environmental Quality Improvement Program (EQIP) will provide up to 50% of the costs necessary to provide similar stream protection.

A State cost-share program administered by the District provides up to 75% of construction costs for off-stream watering and buffer fencing (when funds are available.)

**Take Action Now.** Landowners who need to protect streams on their property should take action now to begin the process of developing the program that best fits their needs. Funds are available now for CREP and EQIP. There are no guarantees they will be available forever. We will know shortly what State money will be available for 2005 and 2006 for cost-share and for CREP supplement. Applications for the use of those funds will be considered by the Soil and Water Conservation District on a first-come/first-serve basis subject in some situations to priority watershed considerations.

Please contact the District office if you would like to have a District Technician and/or NRCS Conservationist schedule a meeting to discuss District programs with you. Call 540 868-1130 ext. 3. The Lord Fairfax Soil and Water Conservation District has an excellent reputation in protecting the environment and the quality of life for its citizens. You can help the District insure a high quality of life for you, for your children, and for future generations.

(The Friends of the Shenandoah River's stream monitoring program is extremely important to the Lord Fairfax Soil and Water Conservation District. It allows the District to determine the effectiveness of its stream protection programs. It allows the District to focus its efforts on locations on the Shenandoah River and its tributaries where pollution problems show up in water samples. I urge your strong financial support for FOSR so that it can continue to provide the scientific basis for conservation work in the Shenandoah River watershed. - BCN)

WE ALL LIVE DOWNSTREAM

## South River Science Team Retrospective by Bob Luce

The last two meetings of the SRST, in October and February, have encouraged me. I've heard more discussion than ever before about identifying and locating the ongoing sources of mercury in the South River. As reported in our last newsletter, it is generally accepted that continuing sources exist because the mercury concentrations in the river water and in the fish are not decreasing with time as expected.

...identifying and locating the ongoing sources of mercury in the South River....

Past SRST activities have focused on monitoring mercury concentrations in the river and in biological receptors, mainly fish of different species and sizes. The emphasis has been on description of the effects of the problem and not on locating specific causes of the problem.

There are several likely reasons for a perceived change in the emphasis now. One is that it is a natural outgrowth of an evolving scientific investigation. Several years of collection and analysis of data have built up a basic understanding of the problem. A second is that there are new studies and techniques that potentially can identify suspected secondary source areas in and near the river. These include the freshwater clams studies, a "sniffing" device being developed by SRST expert Ralph Turner that might pinpoint hot spots in the river, a more comprehensive floodplain sediment sampling study, and laboratory experiments to see under what conditions mercury dissolution and methylation can be induced in bank and floodplain sediments. A third reason may be the recent threat of a citizens lawsuit against DuPont by the Natural Resources Defense Council and the Sierra Club for abatement of an imminent and substantial endangerment to public health and the environment from the storage, handling, or disposal of solid and/or hazardous wastes.

The Friends of the Shenandoah River welcomes activities of the SRST that lead to improvement in the quality of the river water, whatever the reasons for adoption. Ideally, we would like to see SRST's scientific studies lead to timely, cost-effective means to isolate or remove sources of mercury and methylmercury in the South River. I'll keep you posted on progress toward achievement of that goal.

## **Citizens Want Sewage Plant's Permit Pulled** By Val Van Meter The Winchester Star, Friday January 23, 2004

MIDDLETOWN -Several environmental groups and a state agency asked the State Water Control Board Thursday to reconsider approval of a permit for a package sewage treatment plant on Crooked Run.

Wheatlands LLC of Reston is seeking its fourth re-issuance for the plant, which is planned to serve more than 2,100 homes, with a commercial development area on 978 acres near Double Tollgate.

The projected age-restricted development surrounds state-owned Lake Frederick south and west of Va. 277 and, U.S. 340/522 south of Winchester.

The permit was originally issued fifteen years ago.

State water Control Board Member Leroy Pfeiffer, of Cumberland, chaired the public hearing at the Middletown Elementary School Thursday night, attended by 26 people. The board will decide on the permit in March.

Jason Dameron, an environmental engineer for the Valley Regional Office of the State Department of Environmental Quality, outlined objections to the permit already received by DEQ.

Dameron said DEQ had found no evidence of sinkholes along the plant's receiving stream, Crooked Run, that might indicate transfers of surface and underground water.

Without new data, Crooked Run would be considered a perennial stream, and DEQ found no wetlands at the plant site, Dameron said.

DEQ does not require wastewater treatment plants to remove nutrients such as nitrogen and phosphorus, Dameron said.

An engineer for the developer said he had designed the plant to meet present and future nutrient removal standards.

Geologist Raymond Martin said that, walking the streambed; he had found no sign of sink holes.

But other speakers disagreed with Martin's findings. Matthew Mackay-Smith of White Post said as a child, he had played in sinkholes almost 100 feet deep just east of Crooked Run. Sam Lehman, of Frederick County said he knew of at least one large cave.

George Ohrstrom of the Piedmont Environmental Council and Meryl Christiansen of the Friends of the Shenandoah River both urged the board to reconsider plant capacity.

The permit is for treatment of 250,000 gallons of sewage per day. Christiansen, a chemist, said a 2,400 home development plus a shopping center was equal to a town of 10,000 people, which would equate to 750,000 gallons of sewage per day.

"Shouldn't they have to get a permit for the largest number of gallons, not the least?" Ohrstrom asked.

## First Spring Rain

The first spring rain  
is so different

from the bone-chilling  
storms of winter,

Not pelting  
or pounding

but floating in  
on a gentle southerly breeze,

with drops as soft as velvet,

Caressing  
and seeping into

the slowly opening pores  
of the just-awakening earth,

Bringing nature's  
sweet life-force

and the joyful promise of rebirth.

*From the poetry collection of  
John R. Cannon, The Nature's  
Soul*

## You Can Help:

*Join the many FOSR  
volunteers and do your  
part in restoring the  
health and beauty of the  
Shenandoah River  
watershed.*

*Contact Karen  
(540)665-1286  
fosr@fosrbeta.org*

## William T. Hipple Memorial Scholarship

The Friends of the Shenandoah River established the William T. Hipple Memorial Scholarship in 1994. The scholarship is open to all residents living in counties of the Shenandoah River watershed.

The award provides assistance with tuition, fees, and books, up to \$1000.00. This award is divided equally between the fall and spring semesters. Satisfactory academic progress (2.5 GPA) must be maintained in order for the scholarship Recipient to receive the award for the spring semester.

To be eligible for this award, the applicant must be enrolled as a full-time student at LFCC in a course of study involving the sciences -- environmental science, agriculture, horticulture, wildlife management, or forestry -- and state a desire to work toward their field of study in the area.

**Please help the FOSR to continue to assist students  
in the field of environmental studies.  
Donations to the William T. Hipple Memorial Scholarship  
fund are needed and appreciated.**

Lord Fairfax Community College recipient of the Friends of the Shenandoah, William T. Hipple Memorial Scholarship writes:

*Dear Friends of the Shenandoah River.*

*I cannot thank you enough for the gift you have given me through the William T. Hipple Memorial Scholarship. It has been the gift of an education. You have helped further my education so that I might make a better contribution to society.*

*I am loving all my classes and doing well in them, and my teachers are great. LFCC has provided me with an excellent education in horticulture. Thank you so much for helping me attain it.*

*Forever grateful,*

*Breanna Rau  
Midland, VA*

Friends of the Shenandoah River  
PO Box 410  
Front Royal, VA 22630

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WE ALL LIVE DOWNSTREAM

JOIN THE FRIENDS OF THE SHENANDOAH RIVER IN THEIR MISSION  
“To protect and restore the aquatic environment of the Shenandoah River and its tributaries”

Yes, I would like to be a member of The Friends of the Shenandoah River (FOSR)

<input type="checkbox"/> \$10 Student	*NAME _____
<input type="checkbox"/> \$20 Individual	ADDRESS _____
<input type="checkbox"/> \$30 Family	_____
<input type="checkbox"/> \$50 Sustaining	Telephone _____
<input type="checkbox"/> \$100 Coporate	E-mail: _____
<input type="checkbox"/> Other/Donation	One way you can help defray costs and conserve paper is to have the FOSR newsletter e-mailed to you.

Please make checks payable to: ***Friends of the Shenandoah River***  
and mail to:  
**PO Box 410**  
**Front Royal, VA 22630**

\*If you do not wish for the FOSR to exchange your info with other environmental groups, please check box